

AMM AND ENERGY SERVICES

Endesa's 13 million smart meters by 2015

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smartmetering is more

more intelligent
more flexible
more efficient

more endesa

Video





Frankfurt (Germany), 6-9 June 2011

Endesa's roll-out plan

2008

2008 – 2009 ✓

- Definition and Development of field components and systems.
- Preparation of massive Roll-Out plan.

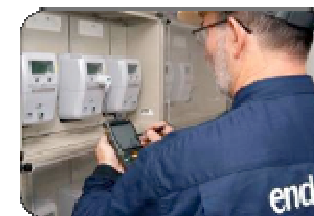
2009

Endesa Smart Metering is operational since mid 2010

2010

2010 ✓

- Certification of meters and concentrators.
- 1st controlled Roll-Out for 100,000 customers.
- System goes live.
- Dedicated project team of 150 people
- Tenders for mass roll-out, including:
 - Manufacturing and supply of first 3,5 meters.
 - Contracts with 114 contractors to perform 5 million yearly field operations during the upcoming 5 years.
- Launch of Endesa's Smart Metering Management and Operation Centre.





Frankfurt (Germany), 6-9 June 2011

Endesa's roll-out plan

Andalucía	4,7 Mln - 42 deployment areas
Cataluña:	4,1 Mln - 40 deployment areas
Canarias:	1,1 Mln - 16 deployment areas
Aragón:	0,85 Mln - 8 deployment areas
Baleares:	0,65 Mln - 8 deployment areas

Total Endesa	11,5 Mln - 114 deployment areas
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We estimate the total number of clients at the end of 2015 to be 13 Mln.



Large scale roll-out

- Communication and dissemination plan to facilitate the roll-out:





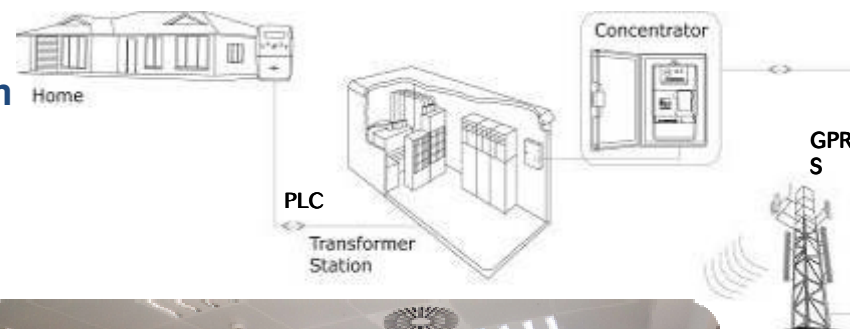
Frankfurt (Germany), 6-9 June 2011

Operational and management centre

❑ 24 hour monitoring centre

❑ Functions:

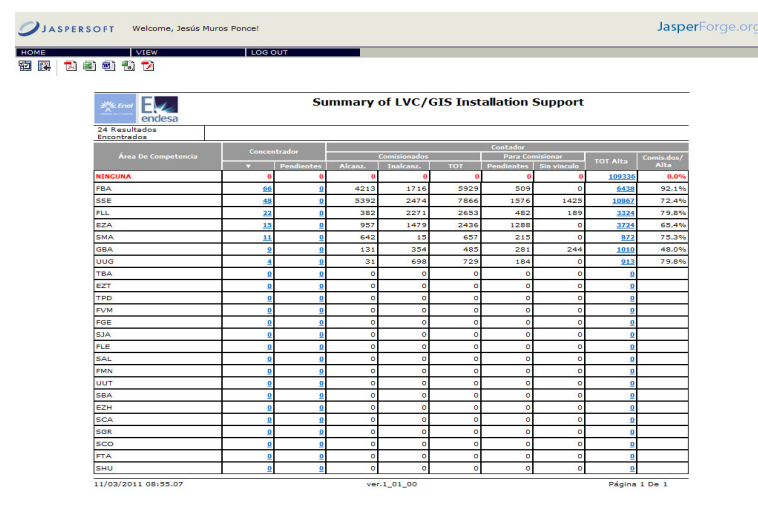
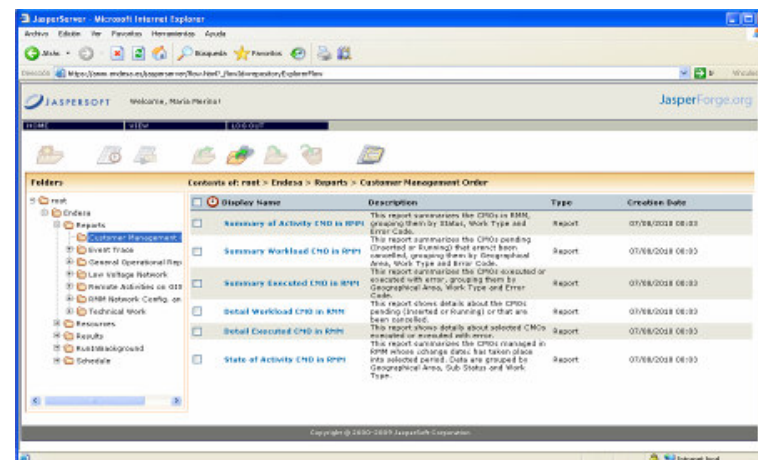
- Maintenance of the whole infrastructure system
- Supervision of daily operations
- Management of incidents



From the point of view of daily operations, the Smart Metering System works as a large contractor, fully integrated with Endesa Legacies.



Operational and management centre



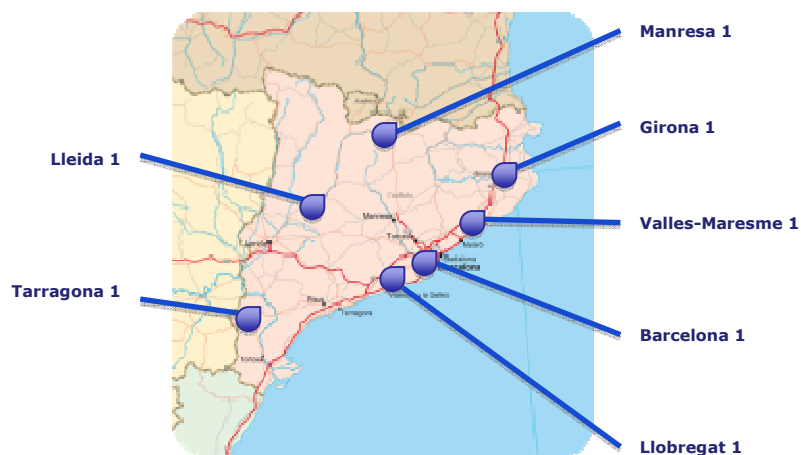
Endesa's roll-out plan

2011

2011

Install in all roll-out areas 1.2 million meters
16,000 concentrators
Advanced system functionalities

Example: Division into roll-out areas in Catalonia and Barcelona



2012

2013

2014

2015

2012 - 2015

Completion Full-scale Roll-Out:

- 13 million meters
- 140,000 concentrators

Faster Roll-Out than required by the regulatory schedule.
Total investment of over 1,600 million of euros. 2,000 new jobs

Remote management of readings and operations in Italy



READINGS

peak value of
7.2 million

Monthly-bimontly

2009

204.700.000

2010

331.000.000

Spot readings

5.000.000

5.000.000

Total

209.700.000

336.000.000



OPERATIONS

Activations

845.000

140.000

Contract management

15.263.000

11.000.000

Contract termination

759.000

900.000

Bad payers management

2.958.000

2.600.000

Total

19.825.000

14.640.000

**Yearly Data*



Frankfurt (Germany), 6-9 June 2011

Meters and More: an open protocol for smart meters

- ❑ **Meters and More** is an **open communication protocol for Smart Metering solutions**.
- ❑ **World leading companies** from different business sectors have already joined the Association:



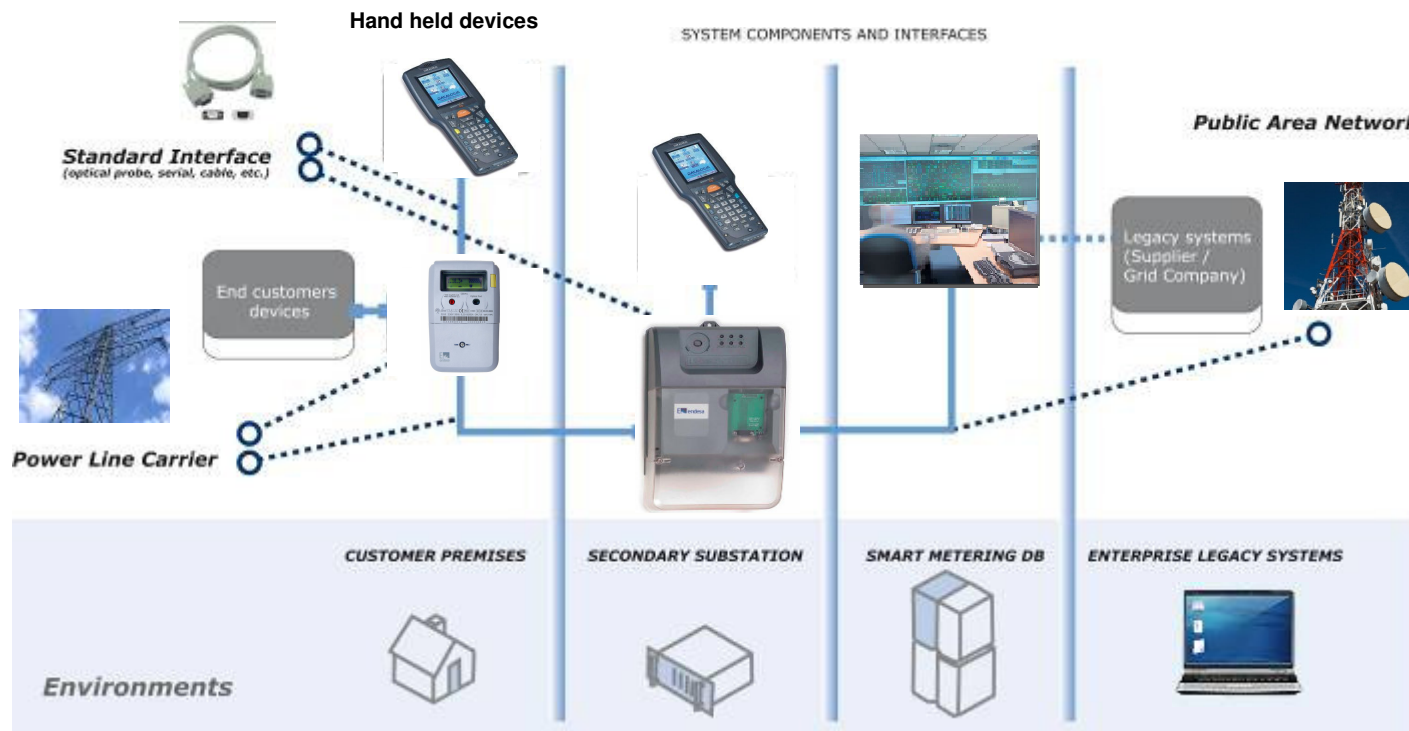
Main characteristics:

- ❑ **Open technology**, built on the specifications of the Enel Telegestore protocol.
- ❑ **Efficiency and robustness**.
- ❑ **Strong data security**.
- ❑ **Flexibility**.
- ❑ **Already available and field-proven**.



Meters and More: an open protocol for smart meters

- The Meters and More protocol defines the communication between:

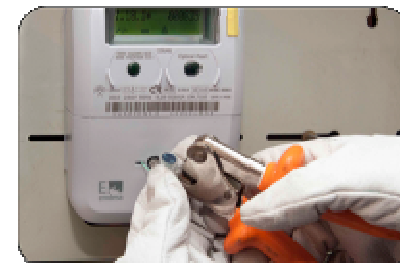
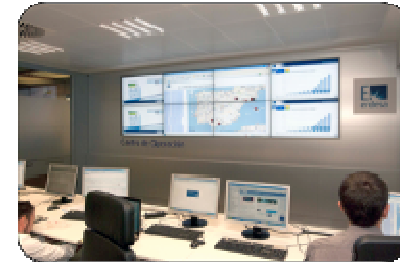


- ☐ Adapted to Spanish and European regulations.
- ☐ In process of being standardized at European level

www.metersandmore.eu

Conclusions

- ☐ **Endesa is the only company in Europe** with an on-going roll-out of 13 million of smart meters.
- ☐ This is **a first real and practical step towards** the development of **Smart Grids** in massive terms.
- ☐ Endesa and Enel have developed the latest technological generation of Smart Metering, based on the open, field-proven **Meters and More protocol** (in the process of being standardized).
- ☐ Smart metering is **already operational since 2010**.
- ☐ Endesa will have a **fully functional system** and will **complete the upgrade of all its meters before the deadline** set by the Spanish regulation.





Frankfurt (Germany), 6-9 June 2011



meter replacement plan
smartmetering
is more

more intelligent
more flexible
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more endesa

THANK YOU VERY MUCH

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Endesa's Smart Metering System



light · gas · people